

Protecting your wheel loader investment

It is a critical player on many jobs, as well as a major investment. That is why adhering to a consistent wheel loader maintenance routine makes smart business sense for both equipment operators and owners.

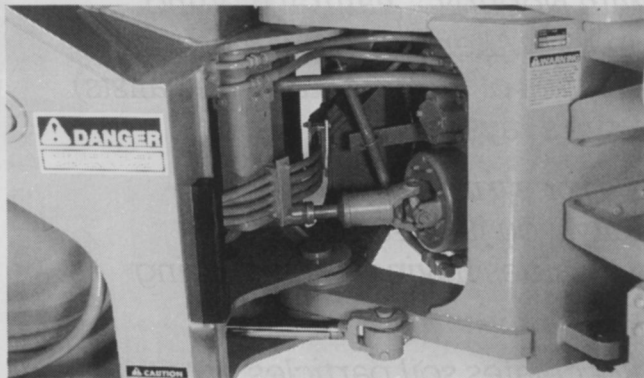
"Only a few minutes of operator attention at each shift will keep wheel loaders performing at peak efficiency," says Jerry L. King, wheel loader service manager at JI Case. "Coupled with performing the regularly-scheduled maintenance tasks like filter and oil changes, the efforts result in a greater return on equipment investment and productivity."

Here are the basics for a routine inspection, and some suggestions on scheduled maintenance:

Fluid and oil

Checking fluid and oil levels are the most important elements of a daily inspection.

The traditional method to check levels is with a dipstick, although there is a trend toward sight glasses, which make inspections easier and help avoid dust contamination.



Wheel loader joints need lubrication every 1,000 hours.

Regular engine oil change intervals are recommended at 250 hours. Burned oil often means the engine is operating at higher temperatures than it should. This calls for an immediate inspection by a certified mechanic.

Oil analysis programs like Systemgard from Case offer a more thorough critique. Periodic oil samples are sent to a lab where technicians analyze it to determine engine wear.

Hydraulic oil should be drained and replaced every 1,000 hours—sooner if the machine is operated in very dusty conditions. Simultaneously, the hydraulic oil filters should be replaced, and the suction screen should be cleaned.

When checking transmission fluid,

pay close attention to different level requirements for cold and warm fluid, as listed in the operator's manual.

Additionally, brake fluid should be checked before each shift.

A quick radiator examination will indicate if it has been damaged during the previous day's operation. In most models, coolant bottles are conveniently visible and can be checked in the daily walkaround.

Both primary and secondary fuel filters should be replaced every 500 hours—sooner when working in extremely dusty conditions.

Every 50 hours, the fuel sediment bowl should be checked and cleaned if necessary.

Some wheel loaders have a light in the operator compartment that indicates air filter restriction. Filter elements do not need to be disturbed until the warning light comes on.

With dual-stage cleaners, the primary filter can be removed and checked for tears, perforations and excess dirt. If cleaning is necessary, use compressed air at

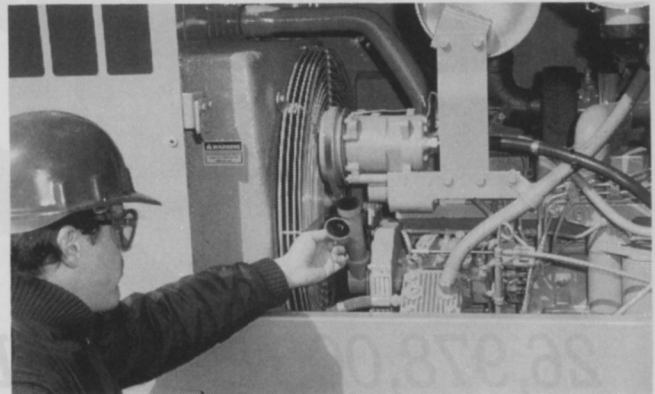
30 psi maximum and wash the element as directed in the operator's manual. The secondary filter should not be disturbed until replacement.

Always change both primary and secondary filters after one year maximum, or after the primary filter has been cleaned three times.

Most air systems have a tank to collect moisture that should be emptied at the end of each shift, minimizing the changes of moisture entering the entire system. Units equipped with air dryer systems require element replacement every 12 months.

Grease points

Some wheel loaders have drive lines with "lubed for life" universal joints



An oil analysis program could reveal engine problems.

that do not require regular greasing. If the drive line is not sealed, this grease point should be lubricated with the appropriate grease according to the maintenance schedule.

The center articulation and slip joints should also be checked and greased according to intervals specified in the operator's manual. While inspecting the center joint, check the hoses that route through to insure they are clean, properly spaced and not damaged.

Outside maintenance

Pivot points on loader arms also need regular greasing with a proper lubricant, such as molydisulfide. The operator should also look for any damage to the cylinders and hydraulic plumbing at this time.

Check the bucket's cutting edge for damage that might impair operation, and inspect teeth to insure wear limits have not been reached.

Because they are reliable and long lasting, tires are often neglected in routine inspections. However, they should be checked regularly for wear, punctures or cuts that can weaken tires and cause blowouts.

When new tires are installed or wheels are removed, check the torque on all lug nuts for tightness after 20 hours of operation. Monthly, or every 250 hours, give the tires and wheels a complete inspection.

With the unit running, check windshield wiper and its fluid level.

On engines with turbochargers, idle them for a few minutes before any shutdown. This extends equipment life by giving the turbocharger time to cool down.

"Although the number of elements to check may make a walkaround seem like a time-consuming task, it truly does become a routine that can be completed in just a few minutes," King says. **LM**